

SEQUENCE LISTING

<110> Nordlund, Henri Rainer et al.

<120> Avidin mutants

<130> BP110588

<160> 29

<170> PatentIn version 3.1

<210> 1

<211> 152

<212> PRT

<213> Gallus gallus

<400> 1

Met Val His Ala Thr Ser Pro Leu Leu Leu Leu Leu Leu Ser Leu
 1 5 10 15

Ala Leu Val Ala Pro Gly Leu Ser Ala Arg Lys Cys Ser Leu Thr Gly
 20 25 30

Lys Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile Gly Ala Val Asn
 35 40 45

Ser Arg Gly Glu Phe Thr Gly Thr Tyr Ile Thr Ala Val Thr Ala Thr
 50 55 60

Ser Asn Glu Ile Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile
 65 70 75 80

Asn Lys Arg Thr Gln Pro Thr Phe Gly Phe Thr Val Asn Trp Lys Phe
 85 90 95

Ser Glu Ser Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp Arg Asn
 100 105 110

Gly Lys Glu Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser Val Asn
 115 120 125

Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn Ile Phe
 130 135 140

Thr Arg Leu Arg Thr Gln Lys Glu
 145 150

<210> 2

<211> 298

<212> PRT

<213> Gallus gallus

<400> 2

Met Val His Ala Thr Ser Pro Leu Leu Leu Leu Leu Leu Ser Leu
 1 5 10 15

Ala Leu Val Ala Pro Gly Leu Ser Ala Arg Lys Arg Thr Gln Pro Thr
 20 25 30

Phe Gly Phe Thr Val Asn Trp Lys Phe Ser Glu Ser Thr Thr Val Phe
 35 40 45

Thr Gly Gln Cys Phe Ile Asp Arg Asn Gly Lys Glu Val Leu Lys Thr
 50 55 60

Met Trp Leu Leu Arg Ser Ser Val Asn Asp Ile Gly Asp Asp Trp Lys
 65 70 75 80

Ala Thr Arg Val Gly Ile Asn Ile Phe Thr Arg Leu Arg Thr Gln Lys
 85 90 95

Glu Gly Gly Ser Gly Gly Ser Ala Arg Lys Cys Ser Leu Thr Gly Lys
 100 105 110

Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile Gly Ala Val Asn Ser
 115 120 125

Arg Gly Glu Phe Thr Gly Thr Tyr Ile Thr Ala Val Thr Ala Thr Ser
 130 135 140

Asn Glu Ile Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile Asn
 145 150 155 160

Lys Ser Gly Gly Ser Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp
 165 170 175

Arg Asn Gly Lys Glu Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser
 180 185 190

Val Asn Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn
 195 200 205

Ile Phe Thr Arg Leu Arg Thr Gln Lys Glu Gly Gly Ser Gly Gly Ser
 210 215 220

Ala Arg Lys Cys Ser Leu Thr Gly Lys Trp Thr Asn Asp Leu Gly Ser
 225 230 235 240

Asn Met Thr Ile Gly Ala Val Asn Ser Arg Gly Glu Phe Thr Gly Thr
 245 250 255

Tyr Ile Thr Ala Val Thr Ala Thr Ser Asn Glu Ile Lys Glu Ser Pro
 260 265 270

Leu His Gly Thr Gln Asn Thr Ile Asn Lys Arg Thr Gln Pro Thr Phe
 275 280 285

Gly Phe Thr Val Asn Trp Lys Phe Ser Glu
 290 295

<210> 3
 <211> 6
 <212> PRT
 <213> Artificial sequence
 <223> linker

<400> 3

Gly Gly Ser Gly Gly Ser
 1 5

<210> 4
 <211> 31
 <212> DNA
 <213> Artificial sequence
 <223> primer

<400> 4
 ctgctagatc tatggtgcac gcaacctccc c

31

<210> 5
 <211> 19
 <212> DNA
 <213> Artificial sequence
 <223> primer

<400> 5
 cctggcagag aggccggga

19

<210> 6
 <211> 20
 <212> DNA
 <213> Artificial sequence
 <223> primer

<400> 6
 aagaggaccc agcccacctt

20

<210> 7
<211> 36
<212> DNA
<213> Artificial sequence
<223> primer

<400> 7
ggagcctccg gagcctccct ccttctgtgt gcgcag

36

<210> 8
<211> 36
<212> DNA
<213> Artificial sequence
<223> primer

<400> 8
ggaggctccg gaggctccgc cagaaagtgc tcgctg

36

<210> 9
<211> 31
<212> DNA
<213> Artificial sequence
<223> primer

<400> 9
tgggcaagct tcacttggtg atggtgtttt g

31

<210> 10
<211> 21
<212> DNA
<213> Artificial sequence
<223> primer

<400> 10
aagtccacca ctgtcttcac g

21

<210> 11
<211> 32
<212> DNA
<213> Artificial sequence
<223> primer

<400> 11
agacaaagct tcactctgaa aacttccaat tg

32

<210> 12
<211> 38
<212> DNA
<213> Artificial sequence
<223> primer

<400> 12
gtggtggatc cgccggactt gttgatgggtg ttttgtgt

38

<210> 13
<211> 29
<212> DNA
<213> Artificial sequence
<223> primer

<400> 13
ccggcggatc caccactgtc ttcacgggc

29

<210> 14
<211> 20
<212> DNA
<213> Artificial sequence
<223> primer

<400> 14
agggtcggct cgaacatctt

20

<210> 15
<211> 20
<212> DNA
<213> Artificial sequence
<223> primer

<400> 15
aagatgttgc agccgaccct

20

<210> 16
<211> 23
<212> DNA
<213> Artificial sequence
<223> primer

<400> 16
cacaggcacc cacatcacag ccg

23

<210> 17
<211> 23
<212> DNA
<213> Artificial sequence
<223> primer

<400> 17
cggctgtgat gtgggtgcct gtg

23

<210> 18
<211> 18
<212> DNA
<213> Artificial sequence
<223> primer

<400> 18
ggcggatcta ccactgtc

18

<210> 19

<211> 18
<212> DNA
<213> Artificial sequence
<223> primer

<400> 19
gacagtggta gatccgcc

18

<210> 20
<211> 29
<212> DNA
<213> Artificial sequence
<223> primer

<400> 20
ccggcagatc taccactgtc ttcacgggc

29

<210> 21
<211> 40
<212> DNA
<213> Artificial sequence
<223> primer

<400> 21
atcctcggat cccgatccgg aacctccctc tgaaaacttc

40

<210> 22
<211> 46
<212> DNA
<213> Artificial sequence
<223> primer

<400> 22
ggctctgggtg gctggatccg gctctggcag cggcaggacc cagccc

46

<210> 23
<211> 20
<212> DNA
<213> Artificial sequence
<223> primer

<400> 23
ctacaaatgt ggtatggctg

20

<210> 24
<211> 581
<212> PRT
<213> Gallus gallus

<400> 24

Met Val His Ala Thr Ser Pro Leu Leu Leu Leu Leu Leu Ser Leu
1 5 10 15

Ala Leu Val Ala Pro Gly Leu Ser Ala Arg Lys Arg Thr Gln Pro Thr

20	25	30
Phe Gly Phe Thr Val Asn Trp Lys Phe Ser Glu Ser Thr Thr Val Phe		
35	40	45
Thr Gly Gln Cys Phe Ile Asp Arg Asn Gly Lys Glu Val Leu Lys Thr		
50	55	60
Met Trp Leu Leu Arg Ser Ser Val Asn Asp Ile Gly Asp Asp Trp Lys		
65	70	75
Ala Thr Arg Val Gly Ile Asn Ile Phe Thr Arg Leu Arg Thr Gln Lys		
85	90	95
Glu Gly Gly Ser Gly Gly Ser Ala Arg Lys Cys Ser Leu Thr Gly Lys		
100	105	110
Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile Gly Ala Val Asn Ser		
115	120	125
Arg Gly Glu Phe Thr Gly Thr Tyr Ile Thr Ala Val Thr Ala Thr Ser		
130	135	140
Asn Glu Ile Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile Asn		
145	150	155
Lys Ser Gly Gly Ser Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp		
165	170	175
Arg Asn Gly Lys Glu Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser		
180	185	190
Val Asn Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn		
195	200	205
Ile Phe Thr Arg Leu Arg Thr Gln Lys Glu Gly Gly Ser Gly Gly Ser		
210	215	220
Ala Arg Lys Cys Ser Leu Thr Gly Lys Trp Thr Asn Asp Leu Gly Ser		
225	230	235
Asn Met Thr Ile Gly Ala Val Asn Ser Arg Gly Glu Phe Thr Gly Thr		
245	250	255
Tyr Ile Thr Ala Val Thr Ala Thr Ser Asn Glu Ile Lys Glu Ser Pro		
260	265	270

Leu His Gly Thr Gln Asn Thr Ile Asn Lys Arg Thr Gln Pro Thr Phe
 275 280 285

Gly Phe Thr Val Asn Trp Lys Phe Ser Glu Gly Gly Ser Gly Ser Gly
 290 295 300

Ser Gly Ser Gly Ser Gly Arg Thr Gln Pro Thr Phe Gly Phe Thr Val
 305 310 315 320

Asn Trp Lys Phe Ser Glu Ser Thr Thr Val Phe Thr Gly Gln Cys Phe
 325 330 335

Ile Asp Arg Asn Gly Lys Glu Val Leu Lys Thr Met Trp Leu Leu Arg
 340 345 350

Ser Ser Val Asn Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg Val Gly
 355 360 365

Ile Asn Ile Phe Thr Arg Leu Arg Thr Gln Lys Glu Gly Gly Ser Gly
 370 375 380

Gly Ser Ala Arg Lys Cys Ser Leu Thr Gly Lys Trp Thr Asn Asp Leu
 385 390 395 400

Gly Ser Asn Met Thr Ile Gly Ala Val Asn Ser Arg Gly Glu Phe Thr
 405 410 415

Gly Thr Tyr Ile Thr Ala Val Thr Ala Thr Ser Asn Glu Ile Lys Glu
 420 425 430

Ser Pro Leu His Gly Thr Gln Asn Thr Ile Asn Lys Ser Gly Gly Ser
 435 440 445

Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp Arg Asn Gly Lys Glu
 450 455 460

Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser Val Asn Asp Ile Gly
 465 470 475 480

Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn Ile Phe Thr Arg Leu
 485 490 495

Arg Thr Gln Lys Glu Gly Gly Ser Gly Gly Ser Ala Arg Lys Cys Ser
 500 505 510

Leu Thr Gly Lys Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile Gly
 515 520 525

Ala Val Asn Ser Arg Gly Glu Phe Thr Gly Thr Tyr Ile Thr Ala Val
 530 535 540

Thr Ala Thr Ser Asn Glu Ile Lys Glu Ser Pro Leu His Gly Thr Gln
 545 550 555 560

Asn Thr Ile Asn Lys Arg Thr Gln Pro Thr Phe Gly Phe Thr Val Asn
 565 570 575

Trp Lys Phe Ser Glu
 580

<210> 25
 <211> 1746
 <212> DNA
 <213> Gallus gallus
 <221> DNA
 <223> DNA sequence which codes for scAvd of SEQ ID NO 24

<400> 25
 atgggtgcacg caacctcccc gctgctgctg ctgctgctgc tcagcctggc tctgggtggct 60
 cccggcctct ctgccaggaa gaggaccag cccacctttg gcttcaccgt caattggaag 120
 ttttcagagt ccaccactgt cttcacgggc cagtgccttca tagacaggaa tgggaaggag 180
 gtcctgaaga ccatgtggct gctgcggtca agtggttaatg acattggtga tgactggaaa 240
 gctaccaggg tcggcatcaa catcttcact cgcctgcgca cacagaagga gggaggctcc 300
 ggaggctccg ccagaaagtg ctgctgact gggaaatgga ccaacgatct gggctccaac 360
 atgaccatcg gggctgtgaa cagcagaggt gaattcacag gcacctacat cacagccgta 420
 acagccacat caaatgagat caaagagtca cactgcatg ggacacaaaa caccatcaac 480
 aagtccggcg gatccaccac tgtcttcacg ggccagtgt tcatagacag gaatgggaag 540
 gaggtcctga agaccatgtg gctgctgctg tcaagtgtta atgacattgg tgatgactgg 600
 aaagctacca gggtcggcat caacatcttc actcgcctgc gcacacagaa ggagggaggc 660
 tccggagggt ccgccagaaa gtgctcgtg actgggaaat ggaccaacga tctgggctcc 720
 aacatgacca tcggggctgt gaacagcaga ggtgaattca caggcaccta catcacagcc 780
 gtaacagcca catcaaatga gatcaaagag tcaccactgc atgggacaca aaacaccatc 840
 aacaagagga ccagcccac ctttggttc accgtcaatt ggaagttttc agagggaggt 900
 tccggatcgg gatccggctc tggcagcggc aggaccagc ccacctttgg cttcacctgc 960

```

aattggaagt tttcagagtc caccactgtc ttcacgggcc agtgcttcat agacaggaat 1020
gggaaggagg tcttgaagac catgtggctg ctgcgggtcaa gtgttaatga cattggtgat 1080
gactggaaag ctaccagggt cggcatcaac atcttcactc gcctgcgcac acagaaggag 1140
ggaggctccg gaggtctccg cagaaagtgc tcgctgactg ggaaatggac caacgatctg 1200
ggctccaaca tgaccatcgg ggctgtgaac agcagagggtg aattcacagg cacctacatc 1260
acagccgtaa cagccacatc aaatgagatc aaagagtcac cactgcatgg gacacaaaac 1320
accatcaaca agtccggcgg atccaccact gtcttcacgg gccagtgctt catagacagg 1380
aatgggaagg aggtcctgaa gaccatgtgg ctgctgcggg caagtgttaa tgacattggg 1440
gatgactgga aagctaccag ggtcggcatc aacatcttca ctgcctgcg cacacagaag 1500
gagggagggt cccgagggtc cgccagaaag tgctcgtga ctgggaaatg gaccaacgat 1560
ctgggctcca acatgaccat cggggctgtg aacagcagag gtgaattcac aggcacctac 1620
atcacagccg taacagccac atcaaagag atcaaagagt caccactgca tgggacacaa 1680
aacaccatca acaagaggac ccagcccacc tttggcttca ccgtcaattg gaagttttca 1740
gagtga 1746

```

<210> 26

<211> 897

<212> DNA

<213> Gallus gallus

<221> DNA

<223> DNA sequence which codes for dcAvd of SEQ ID 2

<400> 26

```

atggtgcacg caacctcccc gctgctgctg ctgctgctgc tcagcctggc tctggtggct 60
cccgccctct ctgccaggaa gaggaccag cccacctttg gcttcaccgt caattggaag 120
ttttcagagt ccaccactgt cttcacgggc cagtgttca tagacaggaa tgggaaggag 180
gtcctgaaga ccatgtggct gctgcgggtc agtggttaatg acattggtga tgactggaaa 240
gctaccaggg tcggcatcaa catcttcact cgcctgcgca cacagaagga gggaggctcc 300
ggaggctccg ccagaaagtg ctgcgtgact gggaaatgga ccaacgatct gggctccaac 360
atgaccatcg gggctgtgaa cagcagagggt gaattcacag gcacctacat cacagccgta 420
acagccacat caaatgagat caaagagtca cactgcatg ggacacaaaa caccatcaac 480
aagtccggcg gatccaccac tgtcttcacg ggccagtgtc tcatagacag gaatgggaag 540
gaggtcctga agaccatgtg gctgctgcgg tcaagtgtta atgacattgg tgatgactgg 600
aaagctacca ggtcggcat caacatcttc actgcctgc gcacacagaa ggagggaggc 660

```

tccggaggct ccgccagaaa gtgctcgctg actgggaaat ggaccaacga tctgggctcc 720
 aacatgacca tcggggctgt gaacagcaga ggtgaattca caggcaccta catcacagcc 780
 gtaacagcca catcaaatga gatcaaagag tcaccactgc atgggacaca aaacaccatc 840
 aacaagagga cccagccac ctttggttc accgtcaatt ggaagtttc agagtga 897

<210> 27
 <211> 31
 <212> DNA
 <213> Artificial sequence
 <223> primer cp34_C1

<400> 27
 aatttaagct tatgttacgg ctgtgatgta g 31

<210> 28
 <211> 290
 <212> PRT
 <213> Gallus gallus

<400> 28

Met Asn Lys Pro Ser Lys Phe Ala Leu Pro Leu Ala Phe Ala Ala Val
 1 5 10 15

Thr Ala Ser Gly Val Ala Ser Ala Gly Thr Gln Pro Thr Phe Gly Phe
 20 25 30

Thr Val Asn Trp Lys Phe Ser Glu Ser Thr Thr Val Phe Thr Gly Gln
 35 40 45

Cys Phe Ile Asp Arg Asn Gly Lys Glu Val Leu Lys Thr Met Trp Leu
 50 55 60

Leu Arg Ser Ser Val Asn Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg
 65 70 75 80

Val Gly Ile Asn Ile Phe Thr Arg Leu Arg Thr Gln Lys Glu Gly Gly
 85 90 95

Ser Gly Gly Ser Ala Arg Lys Cys Ser Leu Thr Gly Lys Trp Thr Asn
 100 105 110

Asp Leu Gly Ser Asn Met Thr Ile Gly Ala Val Asn Ser Arg Gly Glu
 115 120 125

Phe Thr Gly Thr Tyr Ile Thr Ala Val Thr Ala Thr Ser Asn Glu Ile

12/13

130

135

140

Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile Asn Lys Ser Gly
 145 150 155 160

Gly Ser Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile Asn Lys
 165 170 175

Arg Thr Gln Pro Thr Phe Gly Phe Thr Val Asn Trp Lys Phe Ser Glu
 180 185 190

Ser Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp Arg Asn Gly Lys
 195 200 205

Glu Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser Val Asn Asp Ile
 210 215 220

Gly Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn Ile Phe Thr Arg
 225 230 235 240

Leu Arg Thr Gln Lys Glu Gly Gly Ser Gly Gly Ser Ala Arg Lys Cys
 245 250 255

Ser Leu Thr Gly Lys Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile
 260 265 270

Gly Ala Val Asn Ser Arg Gly Glu Phe Thr Gly Thr Tyr Ile Thr Ala
 275 280 285

Val Thr
 290

<210> 29
 <211> 873
 <212> DNA
 <213> Gallus gallus

<400> 29
 atgaacaaac cctccaaatt cgctctgccg cttgccttcg ccgccgttac ggcctctggt 60
 gttgcctcgg ctggtaccca gccaccttt ggcttcaccg tcaattggaa gttttcagag 120
 tccaccactg tcttcacggg ccagtgcctc atagacagga atgggaagga ggtcctgaag 180
 accatgtggc tgctgcggtc aagtgttaat gacattgggtg atgactggaa agctaccagg 240
 gtcggcatca acatcttcac tcgcctgcgc acacagaagg agggaggctc cggaggctcc 300
 gccagaaagt gctcgtctgac tgggaaatgg accaacgata tgggctccaa catgaccatc 360

ggggctgtga acagcagagg tgaattcaca ggcacctaca tcacagccgt aacagccaca	420
tcaaattgaga tcaaagagtc accactgcat gggacacaaa acaccatcaa caagtccggc	480
ggatccaaag agtcaccact gcatgggaca caaaacacca tcaacaagag gaccagccc	540
acctttggct tcaccgtcaa ttggaagttt tcagagtcca ccactgtctt cacgggccag	600
tgcttcatag acaggaatgg gaaggaggtc ctgaagacca tgtggctgct gcggtcaagt	660
gttaatgaca ttggtgatga ctggaaagct accagggtcg gcatcaacat cttcactcgc	720
ctgcgcacac agaaggaggg aggctccgga ggctccgcca gaaagtgctc gctgactggg	780
aaatggacca acgatctggg ctccaacatg accatcgggg ctgtgaacag cagaggtgaa	840
ttcacaggca cctacatcac agccgtaaca taa	873